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On

THE

# ORIGIN

OF THE

# VACCINE INOCULATION.

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I AM induced to give the following conciſe Hiſtory of the Origin of Vaccine Inoculation, from my frequently obſerving that thoſe who only conſider the ſubject curſorily, confound the caſual Cow Pox with the Diſeaſe when excited by Inoculation.

EDWARD JENNER.

Bond-ſtreet,
May 6, 1801.

ON

# *THE ORIGIN*

OF THE

# VACCINE INOCULATION.

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My inquiry into the nature of the Cow Pox commenced upwards of twenty-five years ago. My attention to this ſingular diſeaſe was firſt excited by obſerving, that among thoſe whom in the country I was frequently called upon to inoculate, many reſiſted every effort to give them the Small Pox. Theſe patients I found had undergone a diſeaſe they called the Cow Pox, contracted by milking Cows affected with a peculiar eruption on their teats. On inquiry, it appeared that it had been known

among the dairies time immemorial, and that a vague opinion prevailed that it was a preventive of the Small Pox. This opinion I found was, comparatively, new among them; for all the older farmers declared they had no ſuch idea in their early days—a circumſtance that ſeemed eaſily to be accounted for, from my knowing that the common people were very rarely inoculated for the Small Pox, till that practice was rendered general by the improved method introduced by the Suttons: ſo that the working people in the dairies were ſeldom put to the teſt of the preventive powers of the Cow Pox.

In the courſe of the inveſtigation of this ſubject, which, like all others of a complex and intricate nature, preſented many difficulties, I found that ſome of thoſe *who ſeemed to have undergone the Cow Pox*, nevertheleſs, on inoculation with the Small Pox, felt its influence juſt the ſame as if no diſeaſe had been communicated to them by the Cow. This occurrence led me to inquire among the medical practitioners in the country around me, who all agreed in this ſentiment, that the Cow Pox was not to be relied upon as a certain preventive of the Small Pox.

Pox. This for a while damped, but did not extinguiſh, my ardour; for as I proceeded, I had the ſatisfaction to learn that the Cow was ſubject to ſome varieties of ſpontaneous eruptions upon her teats; that they were all capable of communicating ſores to the hands of the milkers; and that whatever ſore was derived from the animal, was called in the dairy the Cow Pox. Thus I ſurmounted a great obſtacle, and, in conſequence, was led to form a diſtinction between theſe diſeaſes, one of which only I have denominated the *true*, the others the *ſpurious*, Cow Pox, as they poſſeſs no ſpecific power over the conſtitution. This impediment to my progreſs was not long removed, before another, of far greater magnitude in its appearances, ſtarted up. There were not wanting inſtances to prove, that when the true Cow Pox broke out among the cattle at a dairy, a perſon who had milked an infected animal, and had thereby apparently gone through the diſeaſe in common with others, was liable to receive the Small Pox afterwards. This, like the former obſtacle, gave a painful check to my fond and aſpiring hopes: but reflecting that the operations of Nature are generally uniform, and that it was not probable the human conſtitution (having undergone the

Cow

Cow Pox) ſhould in ſome inſtances be perfectly ſhielded from the Small Pox, and in many others remain unprotected, I reſumed my labours with redoubled ardour. The reſult was fortunate; for I now diſcovered that the Virus of Cow Pox was liable to undergo progreſſive changes, from the ſame cauſes preciſely as that of Small Pox; and that when it was applied to the human ſkin in its degenerated ſtate, it would produce the ulcerative effects in as great a degree as when it was not decompoſed, and ſometimes far greater; but having loſt *its ſpecific properties*, it was incapable of producing that change upon the human frame which is requiſite to render it unſuſceptible of the variolous contagion: ſo that it became evident a perſon might milk a cow one day, and having caught the diſeaſe, be for ever ſecure; while another perſon, milking the ſame Cow the next day, might feel the influence of the Virus in ſuch a way, as to produce a ſore or ſores, and in conſequence of this might experience an indiſpoſition to a conſiderable extent; yet, as has been obſerved, the ſpecific quality being loſt, the conſtitution would receive no peculiar impreſſion.

Here

Here the cloſe analogy between the Virus of Small Pox and of Cow Pox becomes remarkably conſpicuous; ſince the former, when taken from a recent puſtule, and immediately uſed, gives the perfect Small Pox to the perſon on whom it is inoculated: but when taken in a far advanced ſtage of the diſeaſe, or when (although taken early) previouſly to its inſertion, it be expoſed to ſuch agents as, according to the eſtabliſhed laws of Nature, cauſe its decompoſition, it can no longer be relied on as effectual. This obſervation will fully explain the ſource of thoſe errors which have been committed by many inoculators of the Cow Pox. Conceiving the whole proceſs to be ſo extremely ſimple, as not to admit of a miſtake, they have been heedleſs about the ſtate of the Vaccine Virus; and finding it limpid, as part of it will be, even in an advanced ſtage of the puſtule, when the greater portion has been converted into a ſcab, they have felt an improper confidence, and ſometimes miſtaken a ſpurious puſtule, which the Vaccine fluid in this ſtate is capable of exciting, for that which poſſeſſes the perfect character.

During the inveſtigation of the caſual Cow Pox, I was ſtruck

ſtruck with the idea that it might be practicable to propagate the diſeaſe by inoculation, after the manner of the Small Pox, firſt from the Cow, and finally from one human being to another. I anxiouſly waited ſome time for an opportunity of putting this theory to the teſt. At length the period arrived. The firſt experiment was made upon a lad of the name of Phipps, in whoſe arm a little Vaccine Virus was inſerted, taken from the hand of a young woman who had been accidentally infected by a cow. Notwithſtanding the reſemblance which the puſtule, thus excited on the boy's arm, bore to variolous inoculation, yet as the indiſpoſition attending it was barely perceptible, I could ſcarcely perſuade myſelf the patient was ſecure from the Small Pox. However, on his being inoculated ſome months afterwards, it proved that he was ſecure*. This Caſe inſpired me with confidence; and as ſoon as I could again furniſh myſelf with Virus from the Cow, I made an arrangement for a ſeries of inocula-

* This boy was inoculated nearly at the expiration of five years afterwards with variolous matter, but no other effect was produced beyond a local inflammation around the punctured part upon the arm.

tions.

tions. A number of children were inoculated in ſucceſſion, one from the other; and after ſeveral months had elapſed, they were expoſed to the infection of the Small Pox; ſome by Inoculation, others by variolous effluvia, and ſome in both ways; but they all reſiſted it. The reſult of theſe trials gradually led me into a wider field of experiment, which I went over not only with great attention, but with painful ſolicitude. This became univerſally known through a Treatiſe publiſhed in June 1798. The reſult of my further experience was alſo brought forward in ſubſequent publications in the two ſucceeding years, 1799 and 1800. The diſtruſt and ſcepticiſm which naturally aroſe in the minds of medical men, on my firſt announcing ſo unexpected a diſcovery, has now nearly diſappeared. Many hundreds of them, from actual experience, have given their atteſtations that the inoculated Cow Pox proves a perfect ſecurity againſt the Small Pox; and I ſhall probably be within compaſs if I ſay, thouſands are ready to follow their example; for the ſcope that this inoculation has now taken is immenſe. An hundred thouſand perſons, upon the ſmalleſt computation, have been inoculated in theſe realms. The numbers who have partaken of its

benefits

benefits throughout Europe and other parts of the Globe are incalculable: and it now becomes too manifeſt to admit of controverſy, that the annihilation of the Small Pox, the moſt dreadful ſcourge of the human ſpecies, muſt be the final reſult of this practice.

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